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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,493	05/16/2006	Hiroshi Omote	038685.57582US	1659
23911 7590 03/05/2008 CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			EXAMINER EDWARDS, LOREN C	
			ART UNIT 3748	PAPER NUMBER
			MAIL DATE .03/05/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,493	OMOTE ET AL.	
	Examiner	Art Unit	
	Loren C. Edwards	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/16/06, 2/27/07</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 5/16/06 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.
3. The information disclosure statement (IDS) submitted on 2/27/07 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garner (U.S. 3,491,534) in view of Elliott (U.S. 2,165,360). Garner discloses an exhaust manifold (Garner; Fig. 1, A) for an internal combustion engine (Garner; Col. 4, Lines 20-27) having multiple cylinders, characterized in that; the diameter D of a main tube of the exhaust manifold and the diameter d of a branch tube satisfy the expression of $1.2 \leq (D/d)^2 \leq 2.5$ (Garner; Col. 5, Lines 32-44). Garner fails to specifically disclose wherein the internal combustion engine is supercharged. Elliott discloses a supercharger system for motor vehicles (Elliott; Col. 1, Lines 1-6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the supercharger of Elliott in the engine of Garner for the advantage of increased power (Elliott; Col. 1, Lines 28-32).

7. With regards to claim 3, the modified Garner, as described in rejecting claim 1 above, discloses an exhaust manifold (Garner; Fig. 1, A) for a supercharger-equipped (Elliott; Col. 1, Lines 1-6) internal combustion engine (Garner; Col. 4, Lines 20-27) having multiple cylinders, characterized in that; the diameter D (Garner; Col. 5, Lines 32-44 – D = 2 inches) of a main tube of the exhaust manifold and the diameter D₁ (Garner; Fig. 2 – D₁ exists between end of the distinct runner passages and the beginning of the collector passage, in the contour) of a passage of a connection connecting a branch tube to the main tube satisfy the expression of $0.7 \leq (D/D_1)^2 \leq 1.4$ (Garner; Col. 5, Lines 32-44 – Because the runners are contoured to the diameter of the main passage, at some point in this contour the ratio of $(D/D_1)^2$ must fall between the given ratios.).

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8. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts (U.S. 3,457,904) in view of Elliott (U.S. 2,165,360). Roberts discloses an exhaust manifold (Roberts; Fig. 6, No. 74) for an internal combustion engine (Roberts; Fig. 5) having multiple cylinders, characterized in that the diameter d (Roberts; Fig. 8, d) of a branch tube (Roberts; Fig. 6, No. 72) of the exhaust manifold and the diameter d_e (Roberts; Fig. 8, No. 68) of an exhaust valve sheet satisfy the expression of $0.8 \leq (d/d_e)^2 \leq 1.2$ (Roberts; Fig. 8, d and No. 68). Roberts fails to specifically disclose wherein the internal combustion engine is supercharged. Elliott discloses a supercharger system for motor vehicles (Elliott; Col. 1, Lines 1-6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the supercharger of Elliott in the engine of Roberts for the advantage of increased power (Elliott; Col. 1, Lines 28-32).

9. With regards to claim 4, the modified Roberts, as described in rejecting claim 2 above, discloses an exhaust manifold (Roberts; Fig. 6, No. 74) for a supercharger-equipped (Elliott; Col. 1, Lines 1-6) internal combustion engine (Roberts; Fig. 5) having multiple cylinders, characterized in that; a branch tube (Roberts; Fig. 6, No. 72) is smoothly connected to a main tube (Roberts; Fig. 6, No. 74) of the exhaust manifold via a connection, the radius R (Roberts; Fig. 8, L) of the outer peripheral side of the connection, and the radius r (Roberts; Fig. 8, d) of the inner circumference side of the connection satisfy the expression of $1.7 \leq R/r \leq 2.1$ (Roberts; Col. 8, Line 37 – $L = 2d$).

Conclusion

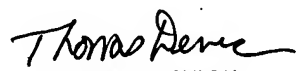
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Loren C. Edwards whose telephone number is (571) 272-2756. The examiner can normally be reached on M-TH 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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